

Physical rehabilitation criteria throughout the stages of therapeutic exercises program for functional disabilities resulting from accident injuries.

[*]Dr Mustafa Ibrahim Ahmed

****Dr Ahmed Refaat Raya**

Globally, an estimated 650 million people live with some form of disability, 80% of whom live in low-income countries (27). The number of people with disabilities in those countries who will need rehabilitation is expected to reach 125 million by 2035 (11). This number is increasing due to the increase in chronic diseases, accidents (falls, car accidents, injuries, violence and wars), life progress in medicine and population aging (27). This resulted in the loss of 76 million years of healthy life by calculating disability periods (9), (18). One of the most important risk factor to be adjusted to stop this increase in disability is accidents. Most accidents are caused by car or trains or traffic accidents (28).

Because of the nature of the injury and the extensive surgical intervention, soft

tissue disease appears and may limit the return of the patient to the previous job level (5) (12) (13) (14) (20) (29). As a result of disability and functional limitations that remains after injury, and surgical intervention procedures for a long period of time, even after complete healing of the stabilized bone (20) (21). Approximately, half of broken leg injured, treated surgically at first level when had some remaining disability for 12 months after injury, and more than 20% of the injured surgically treated for lower limb fractures were unable to return to work for 3 years after injury. Moreover, only 72% of injured treated for lower limb fractures at level 1 were able to return to work after 12 months post-injury. These results confirm that, one year after surgery, the opportunity to

(*) *Assistant Professor of Sports Injuries, Department of Sport Health Sciences, Faculty of Physical Education, Assiut University, Egypt.

** Lecturer of Exercises and Gymnastics, Department of Exercises and Gymnastics Training, Boys Faculty of Physical Education, Alexandria University, Egypt.

return to function and work is reduced (6).

These different types of injuries and functional disabilities affect the quality of life and families of persons with disabilities. As people with disabilities are limited in various areas including physical and social performance, mental health and delay in return to work or study (19). The results of studies revealed that the return to normalcy has been a complex, difficult and long-term process for injured suffering from traffic accidents (23).

In addition, the importance of rehabilitation exercises has increased in recent times, so that some therapeutic schools rely entirely on the treatment of physical aberrations and stadium injuries without intervention of any other factors such as medication, injections and refractories, except in cases where surgical intervention is required. Furthermore, rehabilitation exercises take most of the importance, if not the most important to bring the players back to the stadiums and bring the non-athletes back to day-to-day activities after surgery and preparation for surgeries (2).

Objectives:

1. Design the physical rehabilitation standards during the stages of the program of

therapeutic exercises for functional disabilities resulting from accident injuries.

2. Determine the indicators of measuring the physical rehabilitation standard during the stages of the program of therapeutic exercises for functional disabilities resulting from accident injuries.

Research Questions:

First: What are the criteria for physical rehabilitation during the stages of the program of therapeutic exercises for functional disabilities resulting from accident injuries?

Second: What are the indicators of measuring physical rehabilitation standards during the stages of the program of therapeutic exercises for functional disabilities resulting from accident injuries?

Procedures:

First: human Filed: The size of the research sample 50 faculty members divided into 15 members of the teaching staff specializing in physical rehabilitation of the departments of sports and health sciences, 15 members of the teaching staff of the training department of physical education colleges, 10 members of the faculty of natural medicine and 10 members Faculty of Orthopedic Surgery, Faculty of Medicine, Alexandria University.

Second: Spatial Field: Faculties of Physical Education, Department of Natural Medicine and Department of Orthopedic Surgery, Faculty of Medicine, Alexandria University.

Third: time field: The research procedures were applied in the period from: 03/12/2017 to 26/3/2018. The previous studies were reviewed in the period from: 03/12/2017 to 30/12/2017. Then, the questionnaire form was prepared from: 01/01/2018 to 20/01/2018, then applied the questionnaire form by presenting it to the experts and processing it statistically from 01/03/2018 to 26/03/2018.

Basic Study:

Determination of the age range of the injured: the age range between 20 to 50 years.

Determination the causes of the accident: accidents (falls, traffic accidents, serious sports injuries).

Description of injury: Oblique fractures of the femoral bone, fractures of the head of the femur and/or leg or neck of the head of the bone, crumbled fractures, multiplied fractures, patella fractures and fractures accompanied by partial or total rupture of ligaments or cartilage of the same man. This injury is categorized Multiply-injured with inflammation and

roughness in the knee joint with no neurological deficit in the lower limb and the need for surgical intervention.

Description of the traditional physical therapy adopted after surgery: After surgery and stabilization, the patient begins to process physical therapy, which usually lasts for two to four months, from 3 to 5 sessions of physical therapy with the conduct of 4 constant exercises. According to the assessment of patients for their condition did not feel noticeable improvement and felt severe disability. Physical therapy also has failed to put them on the path to return to their functional state.

Monitoring of occupational disability due to accident injuries and after the completion of the stages of surgical intervention and traditional physical therapy: weakness and irritation of the thigh muscles that result in the abnormal walking pattern of the "limp walking model", lack of function related to walking with low walking tolerance, painless walking, Knee extension in the middle-to-end axis, weakness of the quadriceps muscle, frontal knee pain, progressive bursitis, stiffness of the hip and knee joint, lack of endurance,

inability to perform more advanced skills , Hobbies) or you may need to be modified in order to be performed, change the case of load weight and inability to run or jump or use stairs, and these have resulted in restrictions on disabilities and functional in daily life activities.

Formulation of the objectives of the proposed training program for the rehabilitation of accident injuries: After reviewing the previous studies and studies conducted by the researchers and monitoring the degrees of disability and symptoms, the objectives of each stage were formulated based on the remaining functional disabilities of the impact of the accident and according to the training exercises that can be disabled with functional performance.

Design of the Qualifying Criteria for the proposed training program for the rehabilitation of accident injuries: After completing the formulation of the proposed rehabilitation objectives for each stage based on the previous research review, the researchers set

criteria for transition from rehabilitation stage to the next stage. These criteria allow the patient to move on to the next stage after achieving them.

Determination of criteria for measuring and verifying criteria: After the criteria for transition have been established, indicators have been developed for measuring and verifying the criteria so as to facilitate their application within the capabilities of the disabled and the capabilities of the physical rehabilitation specialist.

Verification of the validity of the form (Appendix 1): The validity of the physical qualification criteria and their verification indicators were calculated during the stages of the program of therapeutic exercises for functional disabilities resulting from accident injuries using the Alpha-Cronbach method and the half-way method using the Spearman Brown coefficient. It showed out that the criteria and indicators are of high-stability.

Verification of the validity of the questionnaire (Appendix 1): The validity of the physical qualification criteria and their

verification indicators during the stages of the program of therapeutic exercises for occupational disabilities resulting from accident injuries was calculated by comparing the differences between the higher and lowest quartiles. The value of the honesty factor (0.85) which ensures that questionnaire under research measures what is set for it, and it can distinguish between different levels.

Questionnaire for qualification criteria and measurement indicators and methods of verification for the program of training exercises for accident injuries to experts (Annex 2): The questionnaire was designed in its final form after confirming the validity of the form, presenting it to the experts, collecting the forms and electronically unloading them and then processing them statistically.

Statistical treatments: The appropriate statistical

treatments were used as shown in the statistical tables.

Presentation and discussion of findings: The views and experiences of a physiotherapist indicated that the most likely factors that may affect the utilization of physiotherapy services are the lack of skills and knowledge of physiotherapists and the lack of criteria for assessing the rehabilitation of the injured. It is therefore important to find treatments and criteria that can enhance motor function after injuries, disabilities and reduced functional capacity. The statistical tables, Table (1) (2) (3) (4) (5) indicate the consensus of the experts on the safety and relevance of the physical rehabilitation criteria and the indicators of verification proposed in the current research and that are commensurate with the objectives of each stage of rehabilitation, which achieves research objectives and answer the questions raised.

Table (1)
Frequency, percentage and statistical indications of the initial qualification stage

Sr.	Statistically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	Overall response (Likert)	Rate Approval %
		Repetitio n	Percenta ge%	Repetitio n	Percenta ge%	Repetitio n	Percenta ge%				
Transition criteria	Improves the fixed strength of the lower limb muscles.	43	96.00	2	3.00	0	0.00	2.33*	2.66	Yes	98.00
	Improve the motor range to flex the lower limb joint.	43	96.00	1	2.00	1	2.00	2.88*	2.63	Yes	97.00
	Load at least 25% of the body weight of the infected leg	39	96.09	6	12.23	3	7.16	3.33*	2.71	Yes	80.71
Indicators	Raise the leg, angle less than 45 degrees against the processor hand and hold 10 w.	47	94.00	3	6.00	0	0.00	3.88*	2.94	Yes	97.00
	Increase the angle of the joints by 5 degrees by the geonometer.0.	48	97.96	0	0.00	1	2.04	3.08*	2.96	Yes	97.96
	Ability to load at least 25% of the weight on the medical scale.	41	82.00	0	0.00	3	7.00	3.33*	2.74	Yes	87.00

A significant Chi Square at level 0.05 where the significance level 0.05 0.05 at the degree of freedom 2 = 5.99, the degree of freedom 1 = 3.84

Likert scale: average weight: - 1.00-1.66 (no), 1.67-2.33 (to some extent), 2.34-3.00 (yes)

Table (1) for frequency, percentage and statistical indications of physical qualification criteria and their verification indicators for the initial qualification phase showed significant differences between the responses and these values for a significant CI at level 0.05 in all physical qualification criteria and verification indicators. Approval percentage is between (85.71% to 98.00%). The table shows that the three physical rehabilitation criteria (improvement of the fixed strength of the lower limb muscles, improving the motor range of knee flexion, loading

at least 25% of the body weight on the infected leg) are specific, easily measurable, accurate and proportional to functional disability at that stage. The objectives of the first stage are achieved, and the measurement indicators are easy to apply and have the degree to which the therapist can rely on the decision to move to the next stage. The body weight load at that stage is consistent with the results of recent studies recommending the need for early loading, which has been tested with patients with the same degree (1) (3).

Table (2)
Frequency, percentage and statistical significance of the second qualification stage

Sr.	Statically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	Overall response (Likert)	Rate Approval %
		Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %				
Transition criteria	Improves the fixed strength of the lower limb muscles.	••	•••••	•	•••	•	•••	•••	•••	Yes	•••••

Follow Table (2)
Frequency, percentage and statistical significance of the second qualification stage

Sr.	Statically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	Overall response (Likert)	Rate Approval %
		Repetition	Percentag e%	Repetition	Percentag e%	Repetition	Percentag e%				
Transition criteria	Improved motor range for joint flexion 10 degrees.	00	100000	0	000	0	000	000	300	Yes	100000
	Load at least 50% of the body weight on the infected leg	42	83000	3	800	3	800	*07.76	2.76	Yes	8800
	Improved stable balance on infected leg.	41	82000	0	1000	3	800	*03.32	2.74	Yes	8700
	Improved walking with reduced auxiliary tools.	00	100000	0	000	0	000	000	300	Yes	100000
Indicators	Raise the leg angle of 45 degrees against the therapist hand and fastness 15 s	48	97.96	1	2.04	0	000	*30.08	2.98	Yes	98.98
Indicators	Bend the joint angle by 10 degrees with the geonometer.	49	98000	1	200	0	000	*36.08	2.98	Yes	9900
	Load at least 50% of the weight on the medical scale.	43	86000	0	1000	2	400	*62.68	2.82	Yes	9100
	Stability and standing on the foot of the infected leg with the eyes closed for 10 s	00	100000	0	000	0	000	000	300	Yes	100000
	Walk forward with one crutch for 10 meters.	00	100000	0	000	0	000	000	300	Yes	100000

*A significant Chi Square box at level 0.05 where the significance level 0.05 0.05 at the degree of freedom 2 = 5.99, the degree of freedom 1 = 3.84

Table (3)
Frequency, percentage and statistical significance of the third
qualifying stage

Sr.	Statically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	Overall response (Likert)	Rate Approva %
		Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %
Transition criteria	Improved respiratory endurance and lower endurance.	••	١٠٠,٠٠	•	٠,٠٠	•	٠,٠٠	٠,٠٠	٣,٠٠	Yes	١٠٠,٠٠
	Improved fixed strength of the femoral front muscles.	••	١٠٠,٠٠	•	٠,٠٠	•	٠,٠٠	٠,٠٠	٣,٠٠	Yes	١٠٠,٠٠
	Improved fixed strength of the posterior thigh muscles.	••	١٠٠,٠٠	•	٠,٠٠	•	٠,٠٠	٠,٠٠	٣,٠٠	Yes	١٠٠,٠٠
Transition criteria	Improves the fixed force of the distal muscles of the thigh.	••	١٠٠,٠٠	•	٠,٠٠	•	٠,٠٠	٠,٠٠	٣,٠٠	Yes	١٠٠,٠٠
	Improve the motor range to extend joints 15 °.	••	١٠٠,٠٠	•	٠,٠٠	•	٠,٠٠	٠,٠٠	٣,٠٠	Yes	١٠٠,٠٠
	Load at least 75% of the body weight of the infected leg.	٤٣	٨٦,٠٠	٥	١٠,٠٠	٢	٤,٠٠	*٦٢,٦٨	٢,٨٢	Yes	٩١,٠٠
	Improved stable balance on infected leg.	••	١٠٠,٠٠	•	٠,٠٠	•	٠,٠٠	٠,٠٠	٣,٠٠	Yes	١٠٠,٠٠
	Improved walking speed for front and back	••	١٠٠,٠٠	•	٠,٠٠	•	٠,٠٠	٠,٠٠	٣,٠٠	Yes	١٠٠,٠٠

Follow Table (3)
Frequency, percentage and statistical significance of the third
qualifying stage

Sr.	Statically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	Overall response (Likert)	Rate Approva 1 %
		Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %
	Improves the performance of use the stairs without relying.	0	100.00	0	0.00	0	0.00	0.00	0.00	Yes	100.00
	Performance on stationary bike for 10 s connected.	0	100.00	0	0.00	0	0.00	0.00	0.00	Yes	100.00
Indicator	Lift the weight of the weight 15 kg and the stability of 15 w using the front device.	44	88.00	4	8.00	2	4.00	*17.36	0.84	Yes	94.00
	Lift the weight of its weight 10 kg and fasten 15 w using the background device.	43	87.76	4	8.16	2	4.08	*10.43	0.84	Yes	91.84
	Weighing weight of 10 kg and stability 15 w by using the braces.	49	98.00	1	2.00	0	0.00	*46.08	0.98	Yes	99.00
	Increase the angle of joints by 15 degrees using the	49	98.00	1	2.00	0	0.00	*46.08	0.98	Yes	99.00

genometer.										
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Follow Table (3)
Frequency, percentage and statistical significance of the third qualifying stage

Sr.	Statically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	Overall response (Likert)	Rate Approva %
		Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %
	Load at least 75% of the weight using the medical scale.	4	83.33	0	0.00	3	6.25	*04.13	2.77	Yes	88.04
	Stand on the foot of the infected leg with the eyes closed on the unstable balance plate for 20 s.	0	0.00	0	0.00	0	0.00	0.00	3.00	Yes	100.00
	Walk forward at a speed of 10 meters and then back quickly.	0	0.00	0	0.00	0	0.00	0.00	3.00	Yes	100.00
	Climb 5 wooden ladder stairs without relying	48	96.00	1	2.00	1	2.00	*88.36	2.94	Yes	97.00

Likert scale: average weight: - 1.00-1.66 (no), 1.67-2.33 (to some extent), 2.34-3.00 (yes)

Table (2): Frequency, percentage and statistical significance of the second qualification stage showed significant differences between the responses and the values of the CI at 0.05 level in some physical qualification and verification criteria. The

percentage ranged from 87.00% to 100.00%. The increase in the number and quality of qualification criteria is evident by increasing the degree or time in a specific way or by reducing the aids. The standards have started to move towards the performance

of functional movements according to the degree of disability. Where the duties of good physical rehabilitation to identify the capabilities of disabled, which can predict the level that can be achieved during the stages of qualification. The need to develop standards due to different disabilities and a function of physical, mental and psychological preparation. It has become recognized that the possibility of disabled access to levels If possible from the beginning of proper rehabilitation, to the appropriate targets that fit their preparedness and capabilities and accurately predict the impact of rehabilitation processes on the growth and development of those standards

and indicators of verification in an effective manner.

*A significant CHI square at level 0.05 where the significance level 0.05 0.05 at the degree of freedom 2 = 5.99, the degree of freedom 1 = 3.84 Likert scale: average weight: - 1.00-1.66 (no), 1.67-2.33 (to a certain extent), 2.34-3.00 (yes), shown in Table (3) for frequency, percentage and statistical indications of the third qualifying stage, There were significant differences between the responses and these values for a significant CHI square at level 0.05 in some physical qualification criteria and phase verification indicators, with a percentage of approval ranging from (88.54% to 100.00%).

Table (4)
Frequency, percentage and statistical indications of the fourth qualifying stage

Sr.	Statically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	response (Likert)	Rate Approval %
		Repetition n	Percentage %	Repetition n	Percentage %	Repetition n	Percentage %				
Transition criteria	Improved respiratory endurance and lower endurance.	•	100.00	•	100.00	•	100.00	•	2.00	Yes	100.00
	Improved the moving force of the front thigh muscles.	•	100.00	•	100.00	•	100.00	•	2.00	Yes	100.00

FollowTable (4)
Frequency, percentage and statistical indications of the fourth
qualifying stage

Sr.	Statically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	response (Likert)	Rate Approval %
		Repetition n	Percentage %	Repetition n	Percentage %	Repetition n	Percentage %				
	Improved mobile force of the posterior thigh muscles.	43	98.00	1	2.00	0	0.00	*46.08	2.98	Yes	99.00
	Improve the mobility of the thigh muscles.	0	100.00	0	0.00	0	0.00	0.00	3.00	Yes	100.00
	Improve the motor range to extend joints 15°.	0	100.00	0	0.00	0	0.00	0.00	3.00	Yes	100.00
	Load the entire body weight on both legs.	38	97.00	1	2.00	1	2.00	*42.03	2.97	Yes	98.00
	Improved moving balance.	0	100.00	0	0.00	0	0.00	0.00	3.00	Yes	100.00
	Improved walking speed for front and back	48	97.00	2	4.00	0	0.00	*42.32	2.97	Yes	98.00
	Improved walking speed for front, back, right, left.	49	98.00	0	0.00	1	2.00	*46.08	2.98	Yes	98.00
	Ability to hobble on infected leg in place.	0	100.00	0	0.00	0	0.00	0.00	3.00	Yes	100.00
Indicator	Performance on stationary bike for 15 s connected.	0	100.00	0	0.00	0	0.00	0.00	3.00	Yes	100.00
	Performance on the bike weight 15 kg and repetition 10	49	98.00	1	2.00	0	0.00	*46.08	2.98	Yes	99.00

tools. Fixed for 15 s.										
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FollowTable (4)
Frequency, percentage and statistical indications of the fourth qualifying stage

Sr.	Statically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	(Likert response)	Rate Approval %
		Repetition n	Percentage %	Repetition n	Percentage %	Repetition n	Percentage %				
	Using a backdrop, lift the weight of 10 kg and repeat 10 counts.	48	96.96	1	2.02	0	0.00	*330.08	2.98	Yes	98.98
	Using the stenting device, the weight of its weight is 10 kg and the repetition 10.	49	98.00	1	2.00	0	0.00	*36.08	2.98	Yes	99.00
	Increase the angle of joints by 15 degrees using the goniometer.	0	0.00	0	0.00	0	0.00	0.00	3.00	Yes	100.00
	Load the entire body weight on both legs using the medical scale.	41	82.00	6	12.00	3	6.00	*03.06	2.76	Yes	88.00
	Walk forward on a drawn line on the ground with the eyes closed for 5 meters	40	80.00	7	14.00	3	6.00	*39.48	2.74	Yes	87.00
	Walk quickly at 10 meters forward, back, right, left	49	100.00	0	0.00	0	0.00	0.00	3.00	Yes	100.00
	Running in place for 2 s 3 times at moderate speed 30 s.	48	96.00	1	2.00	1	2.00	*88.36	2.94	Yes	97.00
	hobble on infected leg in place for 1 s 3 times rest 20 w.	0	0.00	0	0.00	0	0.00	0.00	3.00	Yes	100.00

*CHI Square is significant at 0.05 where the significance level is 0.05
 0.05 at the degree of freedom 2 = 5.99, the degree of freedom 1 =
 3.84, the Likert scale: weighted average arithmetic weights: -1.00-1.66
 (no), 1.67-2.33 (to a certain extent), 2.34 (3).

It is clear from Table (4) level 0.05 in some physical
 that there are significant qualification and verification
 differences between the criteria, with a percentage of
 responses and these values for approval ranging from 85.00%
 a significant Chi Square at to 100.00%.

Table (5)
Frequency, percentage and statistical significance of the
fifth qualifying stage

	Statically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	Overall response (Likert)	Rate Approval %
		Repetition	Percentage%	Repetition	Percentage%	Repetition	Percentage%				
Transition criteria	Improved respiratory endurance and lower endurance.	00	100.00	00	0.00	00	0.00	0.00	3.00	Yes	100.00
	Improved the moving force of the front thigh muscles.	00	100.00	00	0.00	00	0.00	0.00	3.00	Yes	100.00
	Improved mobile force of the posterior thigh muscles.	49	100.00	00	0.00	00	0.00	0.00	3.00	Yes	100.00
Transition criteria	Improve the mobility of the thigh muscles.	00	100.00	00	0.00	00	0.00	0.00	3.00	Yes	100.00
	Access to the full range of joints of 95% of healthy leg.	00	100.00	00	0.00	00	0.00	0.00	3.00	Yes	100.00
	Improve the movement and speed of running forward.	00	100.00	00	0.00	00	0.00	0.00	3.00	Yes	100.00
	Ability to leap forward with	00	100.00	00	0.00	00	0.00	0.00	3.00	Yes	100.00

feet.											
Ability to triple jump (hop step) forward.	٥٠	١٠٠٠	٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠

Table (5)
Frequency, percentage and statistical significance of the fifth qualifying stage

Statically significance & Sentence Content	Yes		To some Extent		No		CHI Square	Average	Liker response	Rate Approval %
	Repetition	Percentage %	Repetition	Percentage %	Repetition	Percentage %				
Ability to hobble on infected leg forward.	٤٩	١٠٠٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠
Running on the Treadmill for 12 seconds is connected to a m-speed.	٥٠	١٠٠٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠
Lift weight 20 kg and repeat 15 tools using the front device.	٥٠	١٠٠٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠
Lift weight 15 kg and repeat 15 tools using the back device.	٥٠	١٠٠٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠
The weight is 15 kg and the repetition is 15 tools	٥٠	١٠٠٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠
Comparison of the angle of the affected joints with the correct knee flexion of the gnometer.	٥٠	١٠٠٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠
Running around the football field 7 rolls - average of 70% of the speed	٥٠	١٠٠٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠
The wide-legged jump is two meters away.	٤٩	١٠٠٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠
Triple jump (dart-hop step) of stability forward 4 meters distance.	٥٠	١٠٠٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠
Hobble on the infected leg from the stability of the forward distance of 10 meters.	٥٠	١٠٠٠	٠	٠	٠	٠	٠	٢٠٠	Yes	١٠٠٠

*A significant CHI Square at level 0.05 where the significance level 0.05 0.05 at the degree of freedom 2 = 5.99, the degree of freedom 1 = 3.84

Likert scale: Weighted mean weight: - 1.00-1.66 (no), 1.67-2.33 (to some extent), 2.34-3.00 (yes)

1. Table 5 shows the frequency, percentage and statistical significance of the fifth qualification stage. There were no significant differences between the responses, with an approval rate of (100.00%) in all physical qualification criteria and verification indicators.

2. Based on the previous table presentation, determining the physical qualification criteria will allow the handicapped and the physical rehabilitation specialist to recognize their relative position during the rehabilitation process. This is an important and necessary measure to achieve the ideal evaluation. It should also be noted that the criteria are not optimum levels that we seek. The center of relative disability also contributes to determining what level reached (1) (3). The existence of a strong support system inside and outside rehabilitation is based on clear and specific criteria, which is the key to building the confidence of the disabled in achieving a rearrangement of priorities after disability. The

criteria for returning to individual capacities after functional disability are often based on the "satisfactory" In previous reference studies (7). For example, Study No. 16 modified three standard performance tools in the areas of general fitness (2-minute walking test), balance and walking (positive mobility assessment), and functional independence (Bartel adjusted index). They confirmed that modified tools provide physicians with quantitative measures to track changes in physical performance of infected persons. Performance criteria are the levels at which performance is satisfactory; the choice of these criteria is essential for the successful implementation of the performance evaluation. It also contributes to the support of the rehabilitation department in the selection of therapeutic exercises and rehabilitation tools that help to develop overall functional performance. In the future, therapists should recognize the many benefits of using technology in rehabilitation. Technology can

be used to achieve benefit as an adjunct to exercise therapy, to evaluate and monitor patient performance to ensure quality and quantity of movements to heal, an investment of time and a customized approach to meet individual patient needs. Technology developers to improve the design of standards and indicators that enable the use of technologies to better support the rehabilitation of functional disabilities.

Conclusions:

3. The total number of physical qualification criteria and indicators in the five stages reached 36 criteria and indicators, the first phase 3 criteria and 3 indicators, the second phase reached 5, the third stage 9, the fourth stage 10, the fifth phase amounted to 9 standards and 9 indicators.

4. Qualifying criteria and indicators developed during the rehabilitation stages and increased the difficulty and number in line with the objectives of the therapeutic exercises, and gradually evolved to include fixed performances and transitional performances to reach the functional performance.

5. The percentage of approval of the research sample ranged from 85.00% to 100.00%. This indicates that there are no significant differences between the sample responses and confirms the credibility and stability of the physical qualification criteria and the indicators of measurement in question, and it can be relied upon to move from one stage of rehabilitation to another.

6. Indicators of physical rehabilitation standards designed during the stages of the program of therapeutic exercises enables the rehabilitation specialist to obtain degrees expressing the elements of physical rehabilitation of the strength of muscle and fixed mobility, load body weight, speed characteristic, fixed balance and moving, sense of movement, speed, Endurance.

Recommendations:

1. There is an urgent need to design criteria to assess the strength of the muscles of the handicapped functionally during the same motor activities that the disabled person needs to return to normal life.

2. Dependence on sophisticated measuring devices when analyzing functional motor tasks to provide us with more accurate data and enable us to improve the efficiency of rehabilitation in terms of time and effectiveness.

3. Starting the study of criteria and indicators of quantitative measurement of functional disabilities early to stand on the causes of imbalances leading to motor disability, which contributes to the efficiency of the design of future rehabilitation programs.

4. Some psychosocial criteria, including frequency, distrust and fear of braking, which are directly related to the function of the affected part, as well as other factors independent of physical function such as changes in priorities or expectations, relevant to the relationship between the patient and rehabilitation, and affecting the decision to return to The practice of normal life to a large extent

5. The criteria and their verification indicators shall be applied in a multi-year standardized procedure on a

large sample of persons with functional disabilities so that we can represent these standards with standard values parallel to the raw values derived from the tests, which will help us to make the decisions of the amendment in the goals and programs of the therapeutic exercises.

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